



1 ENERGY AND ENVIRONMENT CABINET

2 Department for Natural Resources

3 Division of Oil and Gas

4 (Amended After Comments)

5 **805 KAR 1:140. Directional and horizontal wells.**

6 RELATES TO: KRS 353.050, 353.060, 353.180, 353.510, 353.520, 353.561 – 353.564,
7 353.590, 353.5901, 353.592, 353.610, 353.651, 353.652, 353.6601 – 353.6606, 353.730,
8 353.737, 353.991, Chapter 424[353.520, 353.590, 353.610, 353.651, 353.652, 353.991]

9 STATUTORY AUTHORITY: KRS 353.540, 353.550

10 NECESSITY, FUNCTION, AND CONFORMITY: KRS 353.540 authorizes the department
11 to promulgate administrative regulations to administer KRS 353.500 to 353.720. KRS 353.550
12 authorizes the department to regulate the drilling and casing of all wells and filing of all down-
13 hole surveys. This administrative regulation establishes[identifies] the requirements for permit-
14 ting directional and horizontal wells for the purpose of oil or gas extraction.

15 Section 1. Definitions. (1) [~~"Abnormal pressure" means a reservoir pressure that exceeds~~
16 ~~the hydrostatic pressure of fresh water extending from the reservoir to the surface.~~

17 ~~(2) "Annulus" means the space between two (2) strings of casing or between a string of~~
18 ~~casing and the bore hole wall.~~

19 ~~(3)~~ "Blow-out preventer[(BOP)]" or "BOP" means a device installed on the surface casing,
20 which is the first and largest diameter casing installed in a well with the primary use to make
21 the bore hole stand up and to protect a fresh water zone layer of strata capable of producing

1 or receiving fluids, or installed on the intermediate casing, which is one (1) or more strings of
2 pipes installed in a well in addition to the surface casing in which each string is smaller in di-
3 ameter than the previous. The device is used to~~[or intermediate casing]~~ to prevent the escape
4 of pressure either in the annulus, which is the space between two (2) strings of casing or be-
5 tween a string of casing and the bore hole wall, between casing and drill pipe or in the open hole
6 without drill pipe and ~~that~~[which] is used during drilling operations.

7 ~~(2)~~[(4)] "Casing" is defined by KRS 353.010(3).

8 ~~(3)~~[(5)] "Deep well" is defined by KRS 353.510(16).

9 ~~(4)~~[(6)] ~~"DES" means the State Disaster and Emergency Services Office.~~

10 ~~(7)~~[(7)] ~~"Directional and horizontal drilling" means the science of directing a well bore~~
11 ~~along a predetermined course to a target located a given distance from the vertical.~~

12 ~~(7)~~[(8)] "Directional survey" is defined by KRS 353.010(8).

13 ~~(5)~~[(8)]~~[(9)]~~ ~~"Intermediate casing" means one (1) or more strings of pipes installed in a well~~
14 ~~in addition to the surface casing in which each string is smaller in diameter than the previous.~~

15 ~~(9)~~[(10)] "Intersection length" means the horizontal distance between the point at which the
16 well penetrates the top of the intended formation and the end point within that formation.

17 ~~(6)~~[(10)] ~~"KYEM" means the state Kentucky Emergency Management office under au-~~
18 ~~thority of the Department of Military Affairs in Frankfort, Kentucky with regional offices~~
19 ~~throughout the Commonwealth.~~

20 ~~(11)~~ ~~"Long casing string" means the last casing installed in a well to be used for produe-~~
21 ~~tion or injection purposes.~~

22 ~~(12)~~ ~~"Measured depth" means the total depth measured in the well from the surface.~~

23 ~~(13)~~ ~~"Surface casing" means the first and largest diameter casing installed in a well the pri-~~

~~mary purpose of which is to make the bore hold stand up and to protect the fresh water zones.~~

~~(14)~~ "True vertical depth" means the depth of the well from any point in the well being measured to the surface of the ground above the point being measured.

~~[(15) "Zone" means a layer of strata capable of producing or receiving fluids.]~~

Section 2. Information Submittal. (1) Prior to drilling a directional or horizontal well, the operator shall submit~~[the following]~~~~[information]~~:

(a) An Application for Permit~~[application form]~~ ED 1, for a permit to drill the well, with a cover letter from the operator making a request for drilling the horizontal or directional well;

(b) Three (3) copies of a location plat satisfying the requirements of 805 KAR 1:030 (plan view), in addition to~~[the following requirements]~~:

1. The surface location and proposed target formation with their respective ~~["]~~Carter Coordinates~~["]~~~~;~~~~[.]~~

2. The proposed course of the well; and~~[.]~~

3. The identification of the intersection length of the proposed well and the proposed producing formation~~[formation(s)]~~. To avoid any conflicts with the spacing requirements, a dashed line shall be drawn around the intersection length with regard to the spacing requirements in KRS 353.610 or, for deep wells, 805 KAR 1:100 and KRS 353.651 and 353.652. This distance shall be clearly shown in feet;

(c) A bond as required in KRS 353.590~~(7)~~~~[(5)]~~; and

(d) An application fee of \$300.

(2)(a) In addition to the plan view required in this section, the operator shall submit three (3) copies of a plat that~~[which]~~ shows a vertical cross-section view of the area to be drilled by the well.

(b) This cross-section shall be prepared from the proposed "predrill hole" directional survey

compiled by the contractor responsible for the directional control mechanism and certified as required by 805 KAR 1:030, Sections 2 and 7(1)(k).

(c) The cross-section shall include the area from the well site to the target made through the proposed course of the well.

(d) The surface shall be located as zero in reference to the depth and the lateral distance from the well site and true vertical depths shall be shown for~~[all of the following]~~:

1. The kick-off point or selected depth at which the deviation is started;
2. The known coal seams to be intersected;
3. The producing interval;
4. The proposed producing formation; and
5. The proposed target.

(3) ~~Upon~~~~[When the]~~ permit ~~issuance~~~~[is issued]~~, the operator shall provide verbal or written notice to the department field inspector at least forty-eight (48) hours in advance of the commencement of drilling operations.

(4) Once the well has been drilled and completed, the following shall be submitted within **thirty (30)** ~~[ten-(10)]~~ days from the date of completion:

(a) Three (3) copies of an amended plan view of the well location plat required in subsection (1)(b)1. through 3. of this section, with the actual course drilled, the kick-off point, and the actual target superimposed on the proposed well location plat. A correction in the target Carter Coordinates, if necessary, shall then be issued by the department;

(b) Three (3) copies of the side or cross-sectional view plat required in subsection (2)(d)1 through 5 of this section of this section shall be amended for the actual path of the well, showing the actual formation~~[formation(s)]~~, coal seams, target, kick-off point; and

(c) Copies of all directional surveys certified by the operator and the contractor responsible for the directional survey.

1. This survey shall be submitted for the entire well bore, and the operator shall be able to identify the path or depth of the well bore at any given time during and after the drilling of the directional or horizontal well.

2. The survey points shall be made at 200 feet intervals ~~[each tool joint]~~ or at any intervals more frequent[; and

~~(d) On Form ED-8, the operator shall record the lateral offset from the well in feet and the true vertical depth for the producing interval and formation and the coal seam intersections and their true vertical depth].~~

(5) The operator shall satisfy spacing requirements in accordance with KRS 353.610 or, for deep wells, 805 KAR 1:100 and KRS 353.651 and 353.652, of offset mineral boundary lines and between wells for the actual drilled course of the well and its end point and the intersection of the well bore and the producing formations.

(6) A coal operator or owner~~[All coal operators or owners]~~ affected by the drilling of a directional or a horizontal well shall be provided a copy of the predrill plat and cross-section plat established~~[described]~~ in subsections (1)(b) and (2)(b) of this section of this section as required by KRS 353.050 and 353.060. Within ten (10) days after the well is drilled, the operator shall submit to the coal operator or owner the revised plats and deviation survey log required in subsection (4)~~[(5)]~~ of this section.

(7) The requirements for a deep directional or horizontal well shall satisfy those requirements established~~[set out]~~ in 805 KAR 1:100 and KRS 353.651 and 353.652 regarding the application process and spacing units. Prior to the deep directional or horizontal well being drilled, a hearing

shall be held pursuant to KRS Chapter 13B and 805 KAR 1:100 before the Kentucky Oil and Gas Conservation Commission.

Section 3. ~~If~~When an application for a directional or horizontal permit is submitted to the department, the operator shall prepare a detailed drilling and casing plan on, Casing and Cementing Plan, Form ED-7 for the review by and the approval or denial of the department. The items requested in 805 KAR 1:130, Section ~~3~~2(1), (2), and (3) shall be submitted with this plan.

Section 4. The operator shall install a blow-out prevention device capable of withstanding a working pressure of 1,500 psi and a test pressure of 3,000 psi.

(1) A description of this device and its installation shall be included with the drilling and casing plan required in Section 3 of this administrative regulation.

(2) This BOP equipment shall be tested at intervals necessary to maintain its ability to operate at rated capacity. The results of these tests shall be kept at the drill site and made available to department personnel at their request.

Section 5. The requirements of 805 KAR 1:130, Sections 5, 6, and 7~~[4, 5 and 6]~~ shall also apply to this administrative regulation.

Section 6. An operator in noncompliance with the requirements of this administrative regulation shall be~~is~~ subject to penalties pursuant to KRS 353.991.

Section 7. Incorporation by Reference. (1) The following material is incorporated by reference:

(a) "Application for Permit~~[Form]~~", ED 1, June 2004~~[March 1990]~~; and

(b) "Casing and Cementing Plan~~[Form]~~", ED-7, March 2015~~[August 1991]~~; and

~~(c) "Operator Certification of Formation Offset and Vertical Depth Form", ED 8, August 1991].~~

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Division of Oil and Gas Conservation, 1025 Capital Center Drive, Suite 201, Frankfort,

1 Kentucky 40602-2244, Monday through Friday, 8 a.m. to 4:30 p.m.

805 KAR 1:140 approved for filing.
Pages (1-7)

6/15/15

Date

Leonard K. Peters

Leonard K. Peters, Secretary
Energy and Environment Cabinet

REGULATORY IMPACT ANALYSIS AND TIERING STATEMENT

Administrative Regulation No.: 805 KAR 1:140

Contact Person: Michael Mullins, Regulation Coordinator

(1) Provide a brief summary of:

(a) What this administrative regulation does: This administrative regulation identifies the requirements for permitting directional and horizontal wells.

(b) The necessity of this administrative regulation: This administrative regulation is necessary to establish permitting requirements for directional and horizontal wells.

(c) How this administrative regulation conforms to the content of the authorizing statutes: KRS 353.550 authorizes the department to regulate the drilling and casing of all wells and filing of all downhole surveys. This administrative regulation is related to permitting directional and horizontal wells.

(d) How this administrative regulation currently assists or will assist in the effective administration of the statutes: KRS 353.550 authorizes the department to regulate the drilling and casing of all wells and filing of all downhole surveys. This administrative regulation assist in the administration of the statutes by providing necessary details for owners and operators to obtain permits for drilling directional and horizontal wells.

(2) If this is an amendment to an existing administrative regulation, provide a brief summary of:

(a) How the amendment will change this existing administrative regulation: The amendments related to comments will address several KRS 13A technical issues. This administrative regulation was also amended to allow more time to submit required paperwork.

(b) The necessity of the amendment to this administrative regulation: This amendment is necessary to amend the administrative regulation to correct technical issues pursuant to KRS 13A. The amendment is also necessary allow more time for the submittal of required paperwork.

(c) How the amendment conforms to the content of the authorizing statutes: KRS 353.550 authorizes the department to regulate the drilling and casing of all wells and filing of all downhole surveys. This amendment is needed to comply with KRS 13A and provide an extended timeframe for the submittal of paperwork.

(d) How the amendment will assist in the effective administration of the statutes: KRS 353.550 authorizes the department to regulate the drilling and casing of all wells and filing of all downhole surveys. This amendment will assist in the effective administration of the statutes by continuing to provide for a timeframe for submittal of paperwork.

(3) List the type and number of individuals, businesses, organizations, or state and local governments affected by this administrative regulation: This administrative regulation will impact approximately 1,000 oil and gas operators within the Commonwealth.

(4) Provide an analysis of how the entities identified in question (3) will be impacted by either the implementation of this administrative regulation, if new, or by the change, if it is an amendment, including:

(a) List the actions that each of the regulated entities identified in question (3) will have to take to comply with this administrative regulation or amendment: The entities listed above will still be required to submit paperwork to the division dealing with the completion of drilling operations.

(b) In complying with this administrative regulation or amendment, how much will it cost each of the entities identified in question (3): There will not be an additional cost associated with this amendment. This amendment simply alters the time the paperwork is submitted.

(c) As a result of compliance, what benefits will accrue to the entities identified in question (3): The entities will benefit by having an extended time to submit information.

(5) Provide an estimate of how much it will cost the administrative body to implement this administrative regulation:

(a) Initially: These amendments will not increase the costs of the agency to implement.

(b) On a continuing basis: These amendments will not increase the costs of the agency on a continuing basis.

(6) What is the source of the funding to be used for the implementation and enforcement of this administrative regulation: A combination of general funds and restricted funds will be used.

(7) Provide an assessment of whether an increase in fees or funding will be necessary to implement this administrative regulation, if new, or by the change if it is an amendment: There will not be a need to increase fees or funding related to the proposed amendments.

(8) State whether or not this administrative regulation established any fees or directly or indirectly increased any fees: The amendments to this administrative regulation do not increase or establish any fees.

(9) TIERING: Is tiering applied? (Explain why or why not) No. All entities that submit an application to drill a directional or horizontal well will submit an ED-7.

FISCAL NOTE ON STATE OR LOCAL GOVERNMENT

Admin. Regulation No. 805 KAR 1:140

Contact Person: Michael Mullins, Regulation Coordinator

1. What units, parts or divisions of state or local government (including cities, counties, fire departments, or school districts) will be impacted by this administrative regulation? The Division of Oil and Gas.

2. Identify each state or federal statute or federal regulation that requires or authorizes the action taken by the administrative regulation. KRS 353.550.

3. Estimate the effect of this administrative regulation on the expenditures and revenues of a state or local government agency (including cities, counties, fire departments, or school districts) for the first full year the administrative regulation is to be in effect.

(a) How much revenue will this administrative regulation generate for the state or local government (including cities, counties, fire departments, or school districts) for the first year? This new administrative regulation will not generate any new revenue for the state or local government.

(b) How much revenue will this administrative regulation generate for the state or local government (including cities, counties, fire departments, or school districts) for subsequent years? This new administrative regulation will not generate revenue in subsequent years.

(c) How much will it cost to administer this program for the first year? There will not be a cost increase associated with the amendments to this administrative regulation.

(d) How much will it cost to administer this program for subsequent years? Future costs would remain essentially unchanged related to this amendment.

Note: If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impact of the administrative regulation.

Revenues (+/-): NA

Expenditures (+/-): NA

Other Explanation: NA

DETAILED SUMMARY OF MATERIAL
INCORPORATED BY REFERENCE
805 KAR 1:140

This administrative regulation incorporates the following documents:

I. Application for Permit, ED-1, (June 2004). KRS 353.550 authorizes the department to regulate the drilling and casing of all wells and filing of all downhole surveys. This administrative regulation establishes the requirements for permitting directional and horizontal wells for the purpose of oil or gas extraction. This material consists of 1 page.

II. Casing and Cementing Plan, ED-7, (March 2015). KRS 353.550 authorizes the department to regulate the drilling and casing of all wells and filing of all downhole surveys. This form is necessary to submit a casing and cementing plan. This material consists of 1 page.